NEP, 2020 : General Education Embedded with Skill and Vocational Education

H M Naveen
Assistant Professor, Department of Mechanical Engineering, RYM Engineering College, Ballari, Karnataka, India

ABSTRACT

The NEP, 2020 envisages that at least 50% of learners in school and higher education system shall have an exposure to vocational education by 2025. Keeping this in view, the policy recommends that Vocational Education shall be integrated in the educational offerings of all secondary schools in a phased manner. Thus, secondary schools will also collaborate with ITIs, polytechnics, local industry, etc. A framework of possible pathways of synchronizing general education with vocational and skill education is suggested by the UGC. Focus areas for Vocational Education will be chosen based on skills gap analysis and mapping of local opportunities. This framework will provide the basis for recognition of prior learning. The credit-based framework will also facilitate mobility across 'general' and 'vocational education'. The new higher education system tends to be inclusive of all tertiary education and training sectors and learning pathways. Learning modes could be formal, non-formal, and informal learning with quality assurance so that the outcomes are comparable, recognizable, and transferable. Recognition of prior learning and the integration of skills and competencies earned by learners as credits into a formal certification of academic qualification is a unique practice. The outcomes are comparable, recognizable, and transferable, and thus contribute to lifelong learning. The present article highlights the background of the Vocational Education along with NEP policy perspective on vocational education. It also highlights the theoretical framework for synchronization of general education with vocational and skill education as suggested by UGC.

Keywords: General Education, Skill and Vocational Education, NEP (2020), Policy Perspectives

I. INTRODUCTION

The implementation plan for NEP, 2020 briefly review the background of the Vocational Education in the beginning. The details are as follows :

The 12th Five-Year Plan (2012–2017) estimated that only a very small percentage of the Indian workforce in the age group of 19–24 (less than 5%) received formal vocational education; this may be compared to other countries such as the USA where the number is 52%, Germany 75%, and South Korea as high as 96%. These numbers only underline the urgency or the need to hasten the spread of vocational education in India. One of the primary reasons for the small numbers of students receiving vocational education is the unfortunate fact that vocational education has in the past focused largely

on dropouts (Grade 8 and upwards) and on Grades 11–12. Moreover, students passing out from Grades 11–12 with vocational subjects often did not have well-defined pathways to continue with their chosen vocations in higher education. The admission criteria for general higher education were also not designed to provide openings to students who had vocational education qualifications, leaving them at a disadvantage relative to their compatriots from 'mainstream' or 'academic' education. This led to a complete lack of vertical mobility for students from the vocational education stream, an issue that has only been addressed recently through the announcement of the National Skills Qualifications Framework (NSQF) in 2013.

The lack of planning and the poor delivery of vocational education in the past has contributed to the creation of a social status hierarchy in which vocational education is perceived to be inferior to mainstream education, meant largely for students who are unable to cope with the latter. Some of the reasons are as follows:

a) The low social status accorded to the vocational education has always been a deterrent in popularisation of vocational education. There is a need to develop appropriate strategies for popularizing the role and importance of Vocationalisation of Education in schools and to make it socially acceptable. Integrating vocational education with formal education would help in making applied learning popular in the schools. Skill development is the shared responsibility of the Government and the Industry. Government, Industry Associations, Community Members, Parents and Teachers should encourage students to develop a positive attitude towards vocational education. Also, there is a need to modify the recruitment rules of both government and private jobs so that due recognition could be given to the formally skilled people, which would also encourage students to opt for vocational education.

b) The non-availability of good quality vocational teachers/ trainers is a major issue in imparting quality vocational education and training. Industry should play a major role in the training and assessment of skills of the students. Currently, there are about 18000 vocational trainers in schools and there would be a need of around 1.5 lakh trainers if 50% of the learners are to be covered by 2025. The outcome-based approach for preparing quality vocational teachers and trainers would need to be adopted by the Teacher Training Institutions so that professional and experienced teachers could be prepared to teach vocational subjects. It has been observed that the assessment of skills by the Industry leads to better acceptance of the students in the work force. A large number of assessors from the industry would be needed for conducting skill assessments of the learners in the schools. A standing panel of industry experts with the respective education boards would be the need of the hour for carrying out assessment of school students.

c) The Government is implementing the scheme of Vocationalisation of School Education under the umbrella of '*Samagra Shiksha - An Integrated Scheme for School Education*'. The scheme seeks to integrate vocational education with general academic education with an aim to prepare educated, employable and competitive human resource for various sectors of the economy and the global market. The scheme covers Government and Government aided schools. The scheme has been implemented in 10160 schools with reported enrolment of more than 12 lakh students. National Institute of Open Schooling (NIOS) is also implementing various Certificate and Diploma courses for various vocational subjects through their 1379 AVI (Accredited Vocational Institutes). 5% of the cumulative enrolment of 27 Lakh in NIOS is under vocational courses.

II. NEP, 2020: POLICY PERSPECTIVES

The NEP, 2020 in its policy document stressed the following perspectives with regard to Vocational Education.

The 12th Five-Year Plan (2012–2017) estimated that only a very small percentage of the Indian workforce in the age group of 19–24 (less than 5%) received formal vocational education Whereas in countries such as the USA the number is 52%, in Germany 75%, and South Korea it is as high as 96%. These numbers only underline the urgency of the need to hasten the spread of vocational education in India. (NEP Para 16.1)

One of the primary reasons for the small numbers of students receiving vocational education is the fact that vocational education has in the past focused largely on Grades 11–12 and on dropouts in Grade 8 and upwards. Moreover, students passing out from Grades 11–12 with vocational subjects often did not have well-defined pathways to continue with their chosen vocations in higher education. The admission criteria for general higher education were also not designed to provide openings to students who had vocational education qualifications, leaving them at a disadvantage relative to their compatriots from 'mainstream' or 'academic' education. This led to a complete lack of vertical mobility for students from the vocational education stream, an issue that has only been addressed recently through the announcement of the National Skills Qualifications Framework (NSQF) in 2013. (NEP Para 16.2)

Vocational education is perceived to be inferior to mainstream education and meant largely for students who are unable to cope with the latter. This is a perception that affects the choices students make. It is a serious concern that can only be dealt with by a complete re-imagination of how vocational education is offered to students in the future. (NEP Para 16.3)

This policy aims to overcome the social status hierarchy associated with vocational education and requires integration of vocational education programmes into mainstream education in all education institutions in a phased manner. Beginning with vocational exposure at early ages in middle and secondary school, quality vocational education will be integrated smoothly into higher education. It will ensure that every child learns at least one vocation and is exposed to several more. This would lead to emphasizing the dignity of labour and importance of various vocations involving /Indian arts and artisanship. (NEP Para 16.4)

By 2025, at least 50% of learners through the school and higher education system shall have exposure to vocational education, for which a clear action plan with targets and timelines will be developed. This is in alignment with Sustainable Development Goal 4.4 and will help to realize the full potential of India's demographic dividend. The number of students in vocational education will be considered while arriving at the GER targets. The development of vocational capacities will go hand-in-hand with the development of 'academic' or other capacities. Vocational education will be integrated in the educational offerings of all secondary schools in a phased manner over the next decade. Towards this, secondary schools will also collaborate with ITIs, polytechnics, local industry, etc. Skill labs will also be set up and created in the schools in a hub and spoke model which will allow other schools to use the facility. Higher education institutions will offer vocational education either on their own or in partnership with industry and NGOs. The B.Voc. degrees introduced in 2013 will continue to exist, but

vocational courses will also be available to students enrolled in all other Bachelor's degree programmes, including the 4-year multidisciplinary Bachelor 's programmes. HEIs will also be allowed to conduct short-term certificate courses in various skills including soft skills. 'Lok Vidya', i.e., important vocational knowledge developed in India, will be made accessible to students through integration into vocational education courses. The possibility of offering vocational courses through ODL mode will also be explored. (NEP Para 16.5)

Vocational education will be integrated into all school and higher education institutions in a phased manner over the next decade. Focus areas for vocational education will be chosen based on skills gap analysis and mapping of local opportunities. MHRD will constitute a National Committee for the Integration of Vocational Education (NCIVE), consisting of experts in vocational education and representatives from across Ministries, in collaboration with industry, to oversee this effort. (NEP Para 16.6)

Individual institutions that are early adopters must innovate to find models and practices that work and then share these with other institutions through mechanisms set up by NCIVE, so as to help extend the reach of vocational education. Different models of vocational education, and apprenticeships, will also be experimented by higher education institutions. Incubation centres will be set up in higher education institutions in partnership with industries. (NEP Para 16.7)

The National Skills Qualifications Framework will be detailed further for each discipline vocation and profession. Further, Indian standards will be aligned with the International Standard Classification of Occupations maintained by the International Labour Organization. This Framework will provide the basis for Recognition of Prior Learning. Through this, dropouts from the formal system will be reintegrated by aligning their practical experience with the relevant level of the Framework. The credit-based Framework will also facilitate mobility across 'general' and 'vocational education'. (NEP Para 16.8)

III. FRAMEWORK FOR SYNCHRONIZATION

A theoretical model for synchronizing general education with vocational and skill education as suggested in the UGC guidelines is discussed below :

The different levels of qualifications in a given education and training system should be quality assured and embrace different pathways of learning, including experiential learning. The new higher education system tends to be inclusive of all tertiary education and training sectors and learning pathways (for example, Technical Vocational Education and Training and higher education institutions, and cover public and private institutions) based on robust quality assurance that enhances credibility and builds trust in learning outcomes achieved at different levels of the qualifications framework. It also includes different modes of learning, including formal, non-formal, and informal learning so that the outcomes are comparable, recognizable, and transferable, and thus contribute to lifelong learning. Accreditation of Prior Experiential Learning is one example of how the flexible learning pathways are integrated in higher education.

Recognition of prior learning and the integration of skills and competencies earned by learner in the past or in parallel, as credits into a formal certification of academic qualification : Whether studying at home or abroad, online or offline, lifelong learning is essential to ensure peace and stability. This consideration is also at the core of Sustainable Development Goal 4, known as the SDG4-Education 2030 agenda. This shared vision lays out a universal and transformative aspiration whereby innovative

solutions must be part of an integrated agenda ; which is to say all 17 SDGs are essential to create lasting change.

A framework of possible pathways of synchronizing General Education with Vocational and Skill Education is given below :

ASSESSMENT FRAMEWORK	LEVEL	CREDITS	SKILLS	VOCATIONAL AND TECHNICAL	ACCREDITATION OF PRIOR EXPERIENTIAL	RE-ENTRY	ACADEMIC	SEMESTERS	EXIT OPTIONS
LEVELS BASED ON EXPECTED LEARNING OUTCOME	9	72-80	ALL QUALIFICATIONS ARE QUALITY ASSURED as per the provisions enumerated in MoE Skill Assessment Matrix for Vocational Advancement of Youth (SAMVAY)				Master's Degree. (Two years or Four Semesters after Bachelor's degree)	Two-years (four – semester)	
	9	36-40					Master's Degree. (One year or two semesters after obtaining a four-year Bachelor's degree – Honours/Research)	One year (two – semester)	
	9	180-200					Integrated Bachelor's – Master's Degree Programmes	Five – year (ten – semester)	
	8	36-40					Post-Graduate Diploma for those who exist after successful completion of the first year or two semesters of the two-year Master's degree Programme (One year or two-semesters)	One year (two-semester)	
	8	144-160					Bachelor's Degree (Honours/Research). (Four years or eight semesters)	Four-year (eight-semester)	
	7	108-120					Bachelor's Degree (Three years or six semesters)	Three-year (six-semester)	

6	72-80	Diploma	Diploma			Undergraduate Diploma (in the field of learning /discipline) for those who exist after the first two years (four semesters) of undergraduate programme (First two years or four semesters of the undergraduate programme)	Two-year (four-semester)	
5	36-40	SKILLS CERTIFICATE (S)	VOCATIONAL AND TRAINING			Undergraduate Certificate (in the field of learning / discipline) for those who exist after the First year (two semesters) of undergraduate programme. (first year or two semesters of the undergraduate programme)	One-year (two-semester)	

(*Source :* UGC Guidelines for Synchronization of General Education with Skill and Vocational Education)

IV. IMPLEMENTATION PLAN

In order to take the NEP policy perspectives of Vocational Education forward, the implementation plan of NEP, 2020 suggested the following elaborative and systematic plan of action :

i. Expansion and Strengthening of Vocational Education

· Strengthening of Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) will be undertaken to build its capacity for developing curriculum and learning resources, both offline and online for vocational courses and training of teachers/trainers. From 2022-23 onwards PSSCIVE will undertake regular teacher training for vocational education, preferably through online/digital mode. PSSCIVE will train Key resource Persons from States/UTs and also prepare engaging online training modules for self-learning as well.

· States/UTs will organise awareness programmes to change the general attitude towards Vocational Education. Such public awareness to destigmatise

Vocational Education will be done through online/digital modes, through training of school teachers, and through use of social media platforms. For motivating students/parents/teachers, compilation and sharing of good practices in vocational education shall be done for image building through digital media.

· NCERT will ensure inclusion of vocationalisation of education from Class VI to secondary level in National Curriculum Framework for Secondary Education (NCFSE), with introduction of skills training appropriate to the age of the child. NCERT will also prepare detailed curricular framework for vocational education in schools. NCERT will take the views of CBSE and other BOAs for integrating vocational courses in the educational offerings of all secondary schools in a phased manner over the next decade.

· States and UTs to also prepare detailed curricular sub-framework for vocational education in schools as a part of SCFSE. States/UTs will also ensure that 50% students at upper primary level are covered by vocationalisation by 2025 and 100% of upper primary are covered by 2030. A school-wise roadmap will be prepared by States/UTs to

implement this in 2022 for implementation from 2022-30.

· Based on NCFSE, States/UTs/CBSE/BOAs/KVS/JNV/Central Tibetan School Administration (CTSA) will prepare detailed guidelines to ensure implementing of vocationalisation in such a way that every child will be encouraged to develop a skill during his/her school period. These guidelines will also provide framework for secondary schools to collaborate with ITIs, polytechnics, local industry, etc.

· Based on guidelines, states/UTs/CBSE/BOAs/KVS/JNV/CTSA will undertake its implementation from 2022-24 academic session onwards. Use of local Skills Knowledge Providers (SKP) by states/UTs will also help ensure that students are trained for vocations of relevance in the local area, and improve the likelihood of them finding jobs locally after Grade 12.

· States/UTs will provide training modules, preferably in the online mode/blended mode for courses in entrepreneurship, soft skills such as communication skills, courses on digital and financial literacy, entrepreneurship etc. as a part of the vocationalisation of education. States/UTs will also set up Skill labs in a hub and spoke model in school clusters/complexes.

· After the finalisation of State Curricular Framework (SCF), States/UTs will independently take up encouragement of the local arts and craft among the school children by designing suitable courses through SCERTs. The local artisans would be involved for providing training in such arts and crafts. States will develop their own framework for this.

· Problem based Learning approach will be promoted in schools so that students are able to develop requisite skills for innovation and entrepreneurship. NCERT and SCERTs will develop project-based

activities and online resources for Teaching Learning Material (TLM) for this.

ii. Curriculum and Assessment

· Assessment of vocational education will necessarily be split into two parts- the practical part by certified external assessors and the remaining by the educational institution and/or the BOA. A suitable framework for this needs to be created by the National Committee for the Integration of Vocational Education (NCIVE), working in conjunction with PSSCIVE and with CBSE, State-level institutions and BOAs.

iii. Teachers, Trainers and Training:

· Short term training courses, preferably online courses, will be designed for vocational trainers as per the state curriculum and assessment framework by the SCERTs/DIETs. Apart from regular teachers who are trained in imparting vocational education, trainers will be drawn from different sections of society for their expertise in different vocations as a guest faculty. External trainers, who are experts in their vocations, can also be invited to act as master trainers in the online courses for local teachers, who will be mentored at CRCs, BRCs and DIETs.

iv. Guidance for Making Informed Choices

· States/UTs/BOAs/CBSE will work out an online/offline mechanism for providing career counselling and guidance to children in Classes IX to XII so that children can make a career choice based on their interest, aspiration and abilities.

· NCERT will develop Skill Based Aptitude Test (SBT) in online mode at end of Class VIII and Class X, and States/UTs/BOAs/CBSE may introduce it or prepare their own version of SBT to provide guidance to the students of classes VII and X for career choice.

v. ODL to Expand the Coverage

· National Institute of Open Schooling (NIOS) will cater to the dropouts from the formal system through ODL courses designed and promoted for improving the mobility and employability of students. For this NIOS will develop a mechanism of collaboration with states/UTs to get correct data for pro- actively pursuing students to complete schooling.

· Textbooks for the National Institute of Open Schooling (NIOS) will be aligned with those of NCERT. This will enable many students to feel confident about their career choices, because any student who desires to exit at class 10 to pursue a career in a vocational skill, will be able to smoothly transit from formal to open school education. NIOS will ensure that Knowledge of India is incorporated wherever relevant in an accurate and scientific manner. Stories, arts, games, sports, examples, problems, etc. in textbooks will be incorporated in such manner that they are as much as possible rooted in the Indian context.

· CBSE and other BOAs will explore offering stand-alone Vocational courses in affiliated schools in ODL mode and develop suitable assessment and certification mechanisms. This will be introduced in a phase wise manner from 2022-23 academic session onwards.

V. TIMELINE FOR IMPLEMENTATION

The NEP, 2020 states that by 2025, at least 50% of learners through the school and higher education system shall have exposure to Vocational Education. Keeping this target in view the implementation plan of NEP, 2020 has suggested the following Short Term and Long Term targets :

i.hort Term Achievements

Task	Responsibility	Timeline
Strengthening of PSSCIVE will be undertaken to build its capacity for developing curriculum and learning resources, both offline and online for vocational courses and training of teachers/ trainers.	PSSCIVE	2022-23
States/UTs will organise awareness programmes to change the general attitude towards Vocational Education.	States/UTs	2022-23 onwards
NCERT will ensure inclusion of vocationalisation of education from Class VI to secondary level in NCFSE, with introduction of skills training appropriate to the age of the child.	NCERT, CBSE, BoAs	2022-23
States and UTs to also prepare detailed curricular sub-framework for vocational education in schools as a part of SCFSE. States/UTs will also ensure that 50% students at upper primary level are covered by vocationalisation by 2025 and 100% of upper primary are covered by 2030. A school-wise roadmap will be prepared by States/UTs to implement this in 2022 for implementation from 2022-30.	States/UTs	2022

Based on NCFSE, states/UTs/CBSE/BOAs/ KVS/JNV/CTSA will prepare detailed guidelines to ensure implementing of vocationalisation in such a way that every child will be encouraged to develop a skill during his/her school period.	States/UTs/ CBSE/BOAs/ KVS/JNV/ CTSA	2022-23
Based on guidelines of Department of School Education and Literacy (DoSEL), States/UTs/CBSE/BOAs will undertake its implementation from 2022-2023 academic session onwards.	States/UTs, CBSE, BoAs	2023-24
States/UTs will provide training modules, preferably in the online mode/blended mode for courses in entrepreneurship, soft skills such as communication skills. States/UTs will also set up Skill labs in a hub and spoke model in school clusters/complexes.	States/UTs	2022-25
After the finalisation of SCF, States/UTs will independently take up encouragement of the local arts and craft among the school children by designing suitable courses through SCERTs. CBSE/KV/JNV schools shall be free to adopt/adapt these courses as per local context of the student mix and location of the school.	States/UTs/ SCERTs/CBSE /KVS/JNV	2022-23
Problem based Learning approach will be promoted in schools and colleges so that students are able to develop requisite skills for innovation and entrepreneurship. NCERT and SCERTs will develop project-based activities and online resources for Teaching Learning Material (TLM) for this.	NCERT, SCERT, CBSE	2022-23
A suitable framework for assessment of vocational education will be created by the NCIVE, working in conjunction with PSSCIVE and with CBSE and State level institutions and BOA.	NCIVE	2022-23
Short term training courses, preferably online courses, will be designed for vocational trainers as per the state curriculum and assessment framework by the SCERTs/DIETs.	SCERT, DIET	2022-25
States/UTs/BOAs/CBSE will work out an online/offline mechanism for providing career counselling and guidance to children in Classes IX to XII	States/UTs, CBSE, BoAs	2022-23
NCERT will develop Skill Based Aptitude Test (SBT) in online mode at end of Class VIII and Class X, and states/UTs/BOAs/CBSE may introduce it or prepare their own version of SBT	NCERT	2022-25
NIOS will cater to the dropouts from the formal system through ODL courses designed and promoted for improving the mobility and employability of students. For this NIOS will develop a mechanism of collaboration with states/UTs	NIOS	2022-25
Textbooks for the National Institute of Open Schooling (NIOS) will be aligned with those of NCERT. This will enable many students to feel confident about their career choices, because any student who desires to exit at class 10 to pursue a career in a vocational skill, will be able to smoothly	NIOS	2022-25

transit from formal to open school education. NIOS will ensure that Knowledge of India is incorporated wherever relevant in an accurate and scientific manner. Stories, arts, games, sports, examples, problems, etc. in textbooks will be incorporated in such manner that they are as much as possible rooted in the Indian context.		
CBSE and other BOAs will explore offering standalone Vocational courses in affiliated schools in ODL mode and develop suitable assessment and certification mechanisms.	CBSE, BoAs	2022-25

ii. Long Term Achievements

Achievement by 2025	Achievement by 2030
50% Students at Middle level will be provided vocational exposure (States & UTs)	Expansion of vocational education (MOE) Covering all students enrolled at Middle level for vocational crafts (MOE, States and UTs)
Counsellors available to support students (Schools) Vocational Education courses available in 50% of Secondary/Senior Secondary Schools/Clusters	Vocational Education courses available in 100% of Secondary/ Senior Secondary Schools/Clusters
Framework for assessment (NCIVE)	
Training at DIETs, CRCs, and BRCs (SCERTs)	
Development of pool of master trainers in various sectors for training teacher/trainers in schools (NCERT/ PSSCIVE/National Skill Development Corporation (NSDC)/ States/UT)	
Development of pool of assessors for conducting skill assessment of school students. (State /UT/School Education Board /NCERT/PSSCIVE/ NSDC)	

VI. CONCLUSION

According to UGC, the National Skills Qualifications Framework (NSQF) will be detailed further for each discipline vocation and profession to synchronise it with General Education. Further, Indian standards will be aligned with the International Standard Classification of Occupations (ISCO) maintained by the International Labour Organization. This Framework will also provide the basis for Recognition of Prior Learning. Through this, dropouts from the formal system will be reintegrated by aligning their practical experience with the relevant level of the Framework.

The policy framework for skills development envisages that skilling will be integrated with formal education by introducing vocational education classes from grade 9 of secondary education onwards. In higher education, skilling will be integrated with polytechnics offering NSQF-aligned vocational courses and bachelor degrees in vocational studies. The concerns about the nation's readiness to meet employers' needs for workers with the science, technology, engineering, and mathematics skills that many of today's jobs across all sectors require, the framework opens up opportunities for all to participate in and benefit from advances in science and technology.

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Cite this article as :